

METHOD OF DEPOSITION A COMPOSITIONALLY-GRADED COATING SYSTEM

Abstract of Disclosure

A process for depositing a ceramic coating system for Si-containing materials, particularly those for articles exposed to high temperatures. The process is particularly applicable to depositing a compositionally-graded coating system comprising multiple ceramic layers with differing compositions, including a dense, strain-tolerant, vertically-cracked YSZ-containing ceramic layer deposited on a ceramic layer having a composition that is a mixture of YSZ and either mullite or BSAS. The process entails depositing the YSZ-containing ceramic layer using a plasma spraying technique while maintaining the substrate at a temperature so as not to form horizontal cracks in the coating system, but still maintain the dense vertically-cracked structure of the YSZ-containing ceramic layer for strain tolerance.

Figures

Figure 1: A line graph showing the relationship between the number of people in a group and the time taken to complete a task. The x-axis represents the number of people (1 to 10), and the y-axis represents the time taken in minutes (0 to 100). The data points are as follows:

Number of People	Time Taken (minutes)
1	10
2	20
3	30
4	40
5	50
6	60
7	70
8	80
9	90
10	100

The graph shows a linear relationship where the time taken increases proportionally with the number of people. The line starts at (1, 10) and ends at (10, 100).